Synopsis of the proposed research plan

Proposed title of the research

IMPACT OF GEOGRAPHICAL FACTORS ON FLORICULTURE IN KOLAGHAT C. D. BLOCK, PURBA MEDINIPUR DISTRICT

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Impact of Geographical Factors on Floriculture in Kolaghat C.D. Block, Purba Medinipur District.

Introduction

Importance of the Study:

Flowers have always been symbols of myriad human feelings and emotions. Flowers are delicate natural creations that have universal acceptance (Kaur, 2011). Therefore,humans have always taken the help of flowers to expresstheir sentiments on a number of occasions. Consequently,an ever-increasing demand for flowers has made floriculture to gain vital importance foreconomic evaluations and marketing investigations (Manzoor et al., 2001).

Floriculture is a branch of modern agriculture and a discipline of horticulture that is concerned with commercial production, cut flowers, potted flowering plants, foliage plants, flower arrangements and non-commercial home gardening. Humans have been cultivating flowering plants for centuries for the purpose of ornamentation, use in religiousrituals and medicinal purposes. It is increasingly seen as a viable diversification from traditional field crops due to higher returns per unit area. Floriculture is an important agri-business sector that contributes widely to the Indian economy through opportunities in terms of employment, income generation and empowerment, and thus raises socio-economic status in both rural and urban areas (EIBI, 2006).

Although the floriculture scenario is witnessing rapid changes globally, but the commercial trade of floral products have only recently generated the potential for diversification, employment generation and value addition (Sarker,2005). Commercial floriculture, which has lucrative returns, has become a remunerative enterprise across the world (Chattopadhyay, 2007).

About 120 countries are active in large-scale floriculture. World floriculture production is growing at a rate of8–10 per cent per annum. India is ranked 23rd among global exporters of floriculture products (EIBI, 2006). It is estimated that the total area under floriculture in the world is over 220,000 hectares. The economy of some countries such as the Netherlands, Israel and Colombia is dependent on the floriculture industry. The Netherlands imports and re-exports flowers because it has a major market for floriculture. Being the epicentre for world flower trade,the Netherlands alone accounts for almost 50 per cent of global floriculture exports.

India is bestowed with several agro-climatic zones conducive for the production of delicate floral crops. In India, floriculture has become an important commercial tradedue to steady increase in demand as well as consumption. Floriculture plays an important role in the Indian economy by boosting rural employment for mainly marginal and poor people. In fact, a large number of people in India earn their subsistence either by producing or by marketing flowers. It is noticed that the Indian floriculture industry has been shifting focus from traditional flowers to cut flowers for export purposes.

Statement of Problem:

Agriculture is often described as the backbone of Indian economy and floriculture is an important remunerative part of this sector. Floriculture is an important source of remunerative self-employment among marginal and small farmers. Flowers are cultivated throughout the year, and their demand too remains round the year due to festivals.The ever-increasing demand for flowers has made floriculture to gain paramount importance for conducting an economic evaluation. Flower cultivation can generate employment opportunities for marginal and small farmers in rural areas if they take it as a major

occupation that can improve the quality of their lives. Floriculture is one of the untapped potentials of agriculture that can help to boost a heavy demand for employment of human labour for various types of activities ranging from flower cultivation to flower marketing.

In India, 160.72 thousand hectare area was under flower cultivation in 2007–08, accounting for the production of 870,000MT of loose flowers and 4,341 million cut flowers.About 248.51 thousand hectares area was under Cultivation in floriculture in 2014-15. Production of flowers is estimated to be 1,658 thousand tonnes loose flowers and 472 thousand tonnes cut flowers in 2014-15. Definitely, the trend is increasing.In terms of exports, the country has exported 22,086.10 MT of floriculture products to the world for the worth of Rs. 548.74 crores/ 82.05 USD Millions in 2016-17. However, India's share in the international market for flowers is still negligible.

In West Bengal, floriculture including ornamental plant production is an emerging industry with very high prospects. West Bengal has been the highest producer of cut flowers, of over 250 crore pieces, in the domestic market and recorded the highest compounded annual growth rate (CAGR) of over 597 per cent during five-year period of 2007-08 and 2011-12 (Assocham Economic Research Bureau (AERB).West Bengal is the third-largest producer of flowers in the country and it has a unique advantage for the floriculture industry. West Bengal is probably the only region in India where all types of agro-climatic conditions are present. There are six leading flower producing districts namely Purba Medinipur, Nadia, Paschim Medinipur, Howrah, 24 Parganas (North) and 24 Parganas (South) in West Bengal in alluvial zone. However, the floriculture area as the percentage of grossed cropped area is higher in Purba Medinipur district, which is ranked first in terms of production of total flowers for last few years (NHM-Action Plan for West Bengal).

Floriculture in Purba Medinipur district of West Bengal is a highly specialised and intensive form of agriculture. The study area is located in the agro-climatic region of the lower Gangetic plain, which is characterised by enriched newer alluvial soil from River Hooghly and its tributaries,hot and humid climate and enormous genetic diversity. Hence, the study area is highly favourable for flower cultivation. Floriculture can be an enterprise that can generate massive employment opportunities and improve the quality of life of rural poor.Unfortunately,however, floriculture in this areais still in the cradle stage. The study area is purely agrarian land and more than 56 percentof the people are dependent on agricultural activities. At present, more than 70 per cent of the farmers in the study area cultivate flowersalong with traditional field crops. Since floriculture is one of the most profitable sources of income and the demand for flowers thrive steadily due to various social and religious functions round the year, the farmers in the study area make their lands higher by filling up the lowlands in order to prepare the land for flower cultivation. Some flowers like rose, tuberose, marigold, jasmine, dahlia etc. are largely produced in the study areathroughout the year. In reality, the flower farmers in the study area suffer from several problems—1.Inadequateinformation on flower marketing;2. Poor homemade preservation system;3. Lack of marketing efficiencyaffectingthe flower marketing system; 4. Illiterate and economically weakflower growers;5. Low level of technical expertiseof farmers;6. Exploitation by different market intermediaries, etc. As a result, farmers have to depend on local traders and intermediaries for the disposal of their floriculturalproduce that is sold at throwaway prices. The situation is worsening in the case of small and marginal farmers because the amount of production is small and the overhead expenditure on processing, transport and marketing of produce in their case is much more as compared to big farmers.

It is evident that export of flowers to foreign countries earns the maximum profit, and farmers in the study area contend that government intervention in the marketing system is needed urgentlyin order to protect them against exploitation by local traders and intermediaries and thus help them maximise their profit.

The abovementioned importance and problems associated with flower cultivation and marketing have motivated the selection of this topic and area for an intensive study.

Literature Review:

This section reviews the research done by others in fields related to the objectives of this study. Although there are hardly any comprehensive studies available related to the present study, yet an attempt has been made to present some previous studies relevant to this research.

Floriculture is a discipline of horticulture that is concerned with the cultivation of flowering and ornamental plants, and commercial floriculture is defined as the segment of horticulture that is concerned with the commercial production, marketing and sale of bedding plants, cut flowers, potted flowering plants, foliage plants, flower arrangements and non-commercial home gardening. According to Sengar R. S. et al. (2010), floriculture is an intensive type of agriculture. The per unit area income of floriculture is much higher than any other branch of agriculture.

Several researchers and professionals have worked on commercial floriculture. Although flowers have been used for funeral rituals for as far back as 50,000 years, but Sheela V. L. (2008) argue that the concept of commercial floriculture was perpetuated across the world from mainly the Netherlands, Italy, Germany and Japan due to globalisation and its effect on income generation.

Biswas N.K. (2013) studied flower cultivation at Chapra village in Ranaghat-II block of Nadia district, where he focused on the temporal changes in area, yield and productivity of flower cultivation at Chapra village.

Chattopadhyay S. K. (2007) has worked on income profit from commercial floriculture. Earlier, the floriculture industry generated $3 billion annually. Nevertheless,by 2003, the figure had risen to a mighty $101.84 billion. So commercial floriculture has lucrative returns and become a remunerative enterprise globally. In recent years, commercial floriculture has emerged as a profitable agri-business option in the world, particularly in developing countries like Thailand, Malaysia, China and India. Chattopadhyay S. K. (2007) in his book ‘Commercial Floriculture’ has mentioned that Asian nations are making their presence felt by their contributions to international trade and marketing.Although their share of the trade is not significant, but the growth of the floriculture sector in these countries has been very impressive.

In her article ‘The World of Indian Flower Industry: A Sector Untapped’, Kapoor R. (2013) tried to focus on the steady increase in demand for floricultural crops in the context of Indian agriculture. According to her, there are immense entrepreneurial opportunities for small and marginal farmers and potential for earning foreign exchange in an activity like floriculture.

Dhall S.C. (1999) points out that flower are not a flower any more, but it now means big money, big business.

K. Muthukumaran, Chief General Managerof Export Import Bank of India, has highlighted some of the opportunities and challenges of the Indian floriculture industry. According to him, the Indian floriculture industry has been growing at a compound annual growth rate of 25% over the past decade. He has also focused on government incentives that have enabled the setting up of a number of floriculture units for producing and exporting flowers.

Kundu etal. (1997) studied how export-import policy has been fruitful to export Indian cut flowers. They haveshown a growing trend of floriculture export and import.

Market PulseKnowledge Network (P) Ltd. (2008) submitted a report onthe export marketsin Mumbai, Surat, Baroda and Ahmedabad.It reportedthe demand and supply conditions of the marketsin the four areas.

Kokate (2009) studied the market channels of rose and gave some suggestions for the improvisation of the cut flower industry in Maharashtra. He showed that the Indian floriculture market has been growing despite no government regulations on pricing and exports, and suggestedthat government intervention on pricing policy has been the key to the success of the Indian floriculture industry.

Floriculture is an emerging industry in West Bengal with very high prospects and is a sunrise industry in the state. Hans P. (2012) in his research work titled 'The position of the marginal and small farmers in the value chain of cut flower in alluvial West Bengal, India and scope for an upgrading policy'focused on the value chain analysis of cut flower chain by examining rent, governance, systemic efficiency, small holder problem and upgrading, in alluvial West Bengal, India.

Sarker D. and Chakravorty S. (2005) in theirpaper 'Flower Farming and Flower Marketing in West Bengal: A Study of Efficiency and Sustainability'examined the relative efficiency between commercial traditional floriculture and its competing main field crops.

Sahu et al. (2011) worked on the growth of floriculture and its impact on socio-economic status of floriculturists in Panskura and Kolaghat C.D.blocks of PurbaMedinipur.

Objectives of the Study:

The main objectives are as follows:

1. To study the spatial and temporal patterns of floriculture in Kolaghat C.D. block of Purba Medinipur district;
2. To observe the geographical factors contributing to cultivationof flowers;
3. To narrate the socio-economic factors influencing floriculture;
4. To find out the marketing characteristics of flower cultivation in Kolaghat C. D. block;
5. To study the nature and magnitude of gross expenditure, gross and net values of floriculture;
6. To revealthe problems associated with floriculture and suggest policy measures and action programme;

Database and Methodology:

A) Sources of Data:

The study contribution is based on primary and secondary data analysis. The data have been collected from two sources, i.e.

Primary Sources: Primary sources provide first-hand information. The primary sources of information include field observations, interviews and administration of prefabricated questionnaire among villagers. The distribution of ownership of land holding, caste, occupation, land use, cropping pattern, irrigation, cost of production, marketing of flowers, etc.were collected from the field. Besides, data regarding sources of irrigation etc.were collected from the field itself.

Secondary Sources: The data on the physical aspects of the study area were collected from Gazetteer of Purba Medinipur written by W.W. Hunter, L.S.S. O'Malley and District Human Development Report.

The data on irrigation, rainfall, temperature, soil, etc.were collected from the records of several government offices, e.g. office of the Bureau of Applied Economics and Statistics (Tamluk, Purba Medinipur), Irrigation office, Sub-division Agriculture office and District Census Handbook, Purba Medinipur District (Census department of West Bengal government). Secondary sources of data include published sources of the state and Indian governments,Indian Floriculture Market Report and Forecast, District Horticulture Office, Tamluk National Horticulture Mission Action Plan for West Bengal, National Horticulture Board, District Statistical Hand Book, Statistical Handbook of West Bengal, West Bengal Export Policy Reports, Ministry of Agriculture, Ministry of Trade and Commerce, traders'associations, trade journals, websites of different organisations and institutions,nurseries and magazines.

The data on population characteristics were collected from District Census Handbook, Purba Medinipur (2011), Sub-division Agriculture Office, Tamluk.

B) Methodology:

In order to fulfil the objectives of study, the entire research work has been done into three stages viz.

A) Pre-field Stage:

I) Preparation of Questionnaire:

With a view to collect the required primary data to fulfil the objectives of the research work, a detailed questionnaire containing the relevant questions on flower production, productivity, source of irrigation, cost of production, etc. was prepared. The questionnaire was constructed carefully following an intensive study of books, journals, reports and other references related to the research theme.

II) Selection of Sample Mouzas:

Following discussions with experts regarding flower cultivation in Purba Medinipur district, it emerged that there are several socio-economic problems associated with flower cultivation. These intricate problems are very much found in an area where large proportion of the net shown area is devoted to flower cultivation. Therefore, an attempt has been made to select the block, gram panchayats and mouzas where a large proportion of land was under flower cultivation. Therefore Kolaghat C.D. block, the top five gram panchayets like Pulsita, Khanyadihi, Sagarbarh, Brindabanchak and Gopalnagar, and a mouza from each grampanchayat (G.P.), i.e. Pulsita mouza from Pulsita G.P., Baksitala mouza from Khanyadihi G.P., Mandargachha mouza from Sagarbarh G.P., Brindabanchak mouza from Brindabanchak G.P. and Saluka mouza from Gopalnagar G.P., with the highest proportion of area under flower cultivation were selected with the help of purposive sampling technique for the purpose of the present research,which will satisfy the study's basic objective.

Thus, the total number of gram panchayats was five and the number of households from each sample village was 50. Thus, the total number of households surveyed was 250.

B) Field Stage:

I) Field Survey and Data Collection:

In each mouza,50 households were selected for the survey.At the time of selection, it was kept in mind that the household to be surveyed must have engaged in flower cultivation and activities related to it.

The information pertaining to general population characteristics and production and cost of flower cultivation were obtained by selecting at least one respondent from each household. While choosing the respondent,his/her level of education, mental and physical abilities, experience in flower cultivation and activities related with it were checked. The affairs of their household were also observed so that they could respond easily and reasonably. In this way, information on the items mentioned in questionnaire was collected by a personal interview with each individual in the sample household.

Besides, some secondary data were collected from different secondary sources such as office of the Bureau of Applied Economics and Statistics (Tamluk, Purba Medinipur), Irrigation office, Sub-division Agriculture office and District Census Handbook, Purba Medinipur District.

C) Post Field Stage:

I) Preparation of Master Data Sheet:

This is another important step indata related procedures. Following the collection of primary and secondary data through the questionnaire for the household survey and from the secondary sources respectively, the process of cross checking and preparation of the master data sheet was carried out for preparing the relevant tables.

II) Tabulation Work and Use of Statistics:

After the preparation of the master data sheet, relevant tables for the respective chapters were carefully prepared to fulfil objectives of the study. A number of tables were prepared and statistical analysis was done. The major statistical techniques viz. two ways (bi-variate) cross classified contingency table (average), location quotient, Lorenz curve, Gini co-efficient, Pearson's correlation, regression (bi-variate), t-test and marketing efficiency and producers' share in consumer rupee are to be employed.

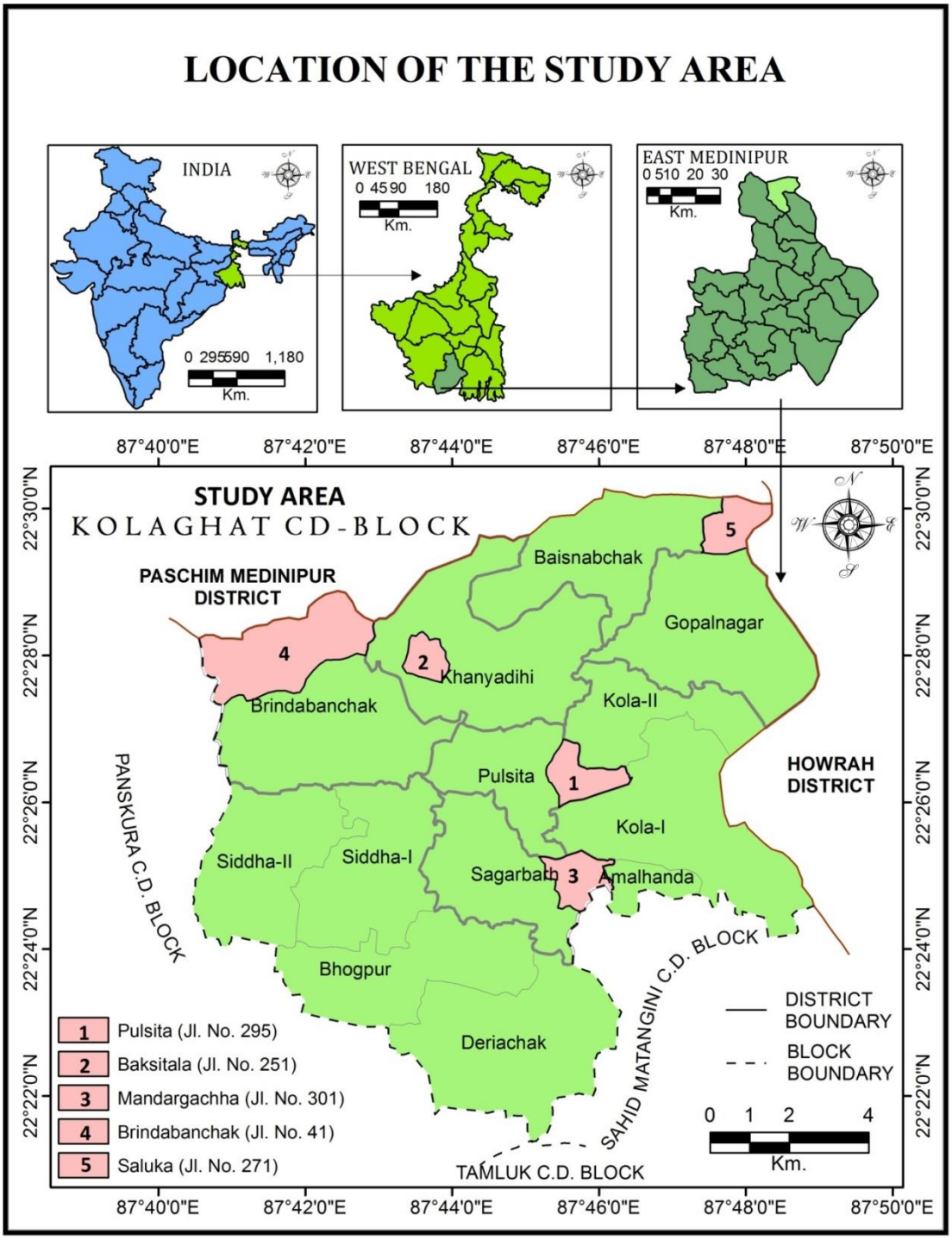
III) Cartographic Representation of Data:

This is another important step of the methodology,and helps in giving the final shapes to tables, maps, diagrams, etc. The following cartographic techniques have been employed to represent the primary as well as secondary data for the best output such as a) Bar diagram, b) Pie diagram, c) Line graph, d) Scatter graph, e) GIS maps and f) Schematic diagram.

LOCATION OF THE STUDY AREA:

In Purba Medinipur district of West Bengal, floriculture has become a highly specialised and intensive form of agriculture. Although there are 25 C.D. blocks in Purba Medinipur district, but only three blocks among them are engaged in flower cultivation.With wide cultivation of flowers present only in Kolaghat C.D. block which is my study area. It is located at the extreme upper part of Purba Medinipur district of West Bengal. This area comes under Tamluk subdivision. Kolaghat C.D. block extends between 22°23' north to 22°34' north and 87°43' east to 87°53'east covering a geographical area of 15480.51 hectare (total cultivated area is 11652.92 hectare which means 75.27% of total geographical area is cultivated area and total flower cultivated area is 1777.5 hectare which means 15.25% area of total cultivated area is under flower cultivation). As per District Census Handbook-PURBA MEDINIPUR 2011Kolaghat C.D. block had a total population of 290124 of which 150246 (52%) were male and 139878 (48%) were female. Percentage of literacy is 84.93. The study area is bound by Paschim Medinipur district in the north, by Howrah district in the east, by Panskura C. D. block in the south-west, by Tamluk C. D. block in the south and Sahid Matangini C. D. block in the south-east as shown in the figure below. This area is enriched by new alluvial soil from River Hooghly and its tributary Rupnarayan, and characterised by hot and humid tropical climate. Average temperature of this block varies from 25.5°C to 38.6° C. And average rainfall is 1746.6 mm.Rupnarayan and Kansabati rivers are the major suppliers of irrigational water to the floriculture field in this region.

The study area is highly agrarian and flower cultivation is an important part of the agricultural sector. In this area, most of the flowers are cultivated in open fieldsand as per area and productionthe important flowers among them are rose, tuberose, marigold,jasmine and dahlia etc.


LOCATION OF THE STUDY AREA
INDIA
0 295590 1,180
Km.
WEST BENGAL
0 4590 180
Km.
EAST MEDINIPUR
0 510 20 30
Km.
87°40'0"E
87°42'0"E
87°44'0"E
87°46'0"E
87°48'0"E
87°50'0"E
22°30'0"N
22°28'0"N
22°26'0"N
22°24'0"N
22°22'0"N
STUDY AREA
KOLAGHAT CD-BLOCK
PASCHIM MEDINIPUR DISTRICT
HOWRAH DISTRICT
PANSKURA C.D. BLOCK
SAHID MATANGINI C.D. BLOCK
TAMLUK C.D. BLOCK
Baisnabchak
Gopalnagar
Khanyadihi
Brindabanchak
Kola-II
Pulsita
Kola-I
Siddha-II
Siddha-I
Sagarbath
Amalhanda
Bhogpur
Deriachak
1 Pulsita (Jl. No. 295)
2 Baksitala (Jl. No. 251)
3 Mandargachha (Jl. No. 301)
4 Brindabanchak (Jl. No. 41)
5 Saluka (Jl. No. 271)
DISTRICT BOUNDARY
BLOCK BOUNDARY
0 1 2 4
Km.

PROPOSED CHAPTERISATION:

ChapterI:Introduction
ChapterII: Literature Survey and Review
ChapterIII: Historical Perspectives of Flower Farming
ChapterIV: Geographical Appraisal of the Study Area
ChapterV:Spatial-Temporal Pattern of Flower Cultivation

A) Flower Pattern
B) Production and Productivity

Chapter-VI:Impact of Geographical Factors on Floriculture
Chapter-VII: Impact of Socio-Economic Factors on Floriculture
Chapter-VIII: Marketing Aspect of Floriculture
Chapter-IX: Nature and Magnitude of Gross Expenditure, Gross and Net Value of Floriculture
Chapter-X:Problems of Flower Cultivation and Policy Measures, Action Programme to Alleviate Problems of Floriculture
Chapter-XI:Summary, Major Findings and Conclusions
Chapter-XII:References

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